Explosives and Hazardous Devices Report Writing Guidelines

1 Scope

These procedures set forth guidelines for writing FBI *Laboratory Reports* for Explosives and Hazardous Devices examinations and supplements the practices set forth in the FBI Laboratory *Quality Assurance Manual (QAM*) and the FBI *Laboratory Operations Manual (LOM).* These procedures apply to caseworking personnel conducting work in Explosives and Hazardous Devices.

2 Introduction

FBI *Laboratory Reports* issued by Explosives and Hazardous Devices Examiners conducting casework in Explosives and Hazardous Devices analysis are designed to summarize analytical findings during the routine analysis of evidence. Due to the wide variety of requests and evidence received, these procedures only provide general guidelines for report writing. It is not possible to anticipate every type of report that may be written, and this document is designed to provide examples of common occurrences. It is acceptable to use other wording as long as the results of the examinations are accurately communicated, a description of the methodology used to reach the results is included, limitations are addressed, and wording is approved during the technical review process by an authorized technical reviewer in the sub-discipline.

3 Procedures

All *Laboratory Reports* containing opinions and interpretations generated by explosives and hazardous devices examiners will follow the requirements in the FBI *Laboratory Operations Manual* and will also contain an "Interpretations and Limitations" section.

3.1 Destructive Device Determination

The Destructive Device Determination section contains the opinion of the explosives and hazardous devices examiner as to whether the device or device components possess the functional characteristics and/or design elements of a weapon along with the rationale for such an opinion, as applicable. This section will be located before the Results of Examinations section. The examiner may use interpretive wording to aid the reader in understanding the destructive device determination.

3.2 Results of Examinations

The Results of Examinations section contains methods, results, opinions, and/or conclusions of forensic examinations conducted by the explosives and hazardous devices examiner. Example wording for examination results can be found in Appendix A.

The following statement will be used in all *Laboratory Reports* detailing the methods used in the examination of evidence:

> The methods utilized during the analysis of the evidentiary items included the following (the explosives and hazardous devices examiner may choose the appropriate methods from the below list):
>
> - visual examinations of observable, physical characteristics;
> - visual comparison examinations of observable, physical characteristics;
> - microscopical examinations of observable, physical characteristics;
> - microscopical comparison examinations of observable, physical characteristics;
> - measurements of physical characteristics;
> - measurement comparison examinations of physical characteristics;
> - visual examinations of photographs;
> - visual examinations of x-ray images;
> - reviews of references; and
> - reviews of relevant case documentation.

3.3 Interpretations and Limitations

The Interpretations and Limitations section consists of the following statements that will be used in all *Laboratory Reports* containing opinions and interpretations:

- Conclusive identifications of the source of an item may not be realized in every case due to the absence or alterations of specific manufacturer or other unique markings on items of evidence.

- Item source identifications that refer to a specific distributor or manufacturer have not been confirmed with that distributor or manufacturer unless otherwise stated in this report.

- The physical characteristics, such as, but not limited to, material type, shape, and color of all evidentiary items described in this report are based on visual and/or microscopical observations, unless otherwise noted. Other parameters such as, but not limited to, distances, angles, and voltages associated with individual evidentiary items are based on physical measurements and are approximate, unless otherwise noted. Should a more complete characterization of these items be required, additional examinations can be requested of the appropriate forensic discipline. Diagrams such

as, but not limited to, drawings and schematics are not to scale, unless otherwise noted.

- (This limitation will be used when a destructive device determination is made.) The two elements that must be met to make an affirmative destructive device determination are that the device or device components constitute an explosive or incendiary device and that the device or device components possess the functional characteristics and/or design elements of a weapon. These two elements are purely technical, not legal, and are not meant to infer the intent of the individual(s) who constructed the device.

- (This limitation will be used when a destructive device determination is made.) In the absence of characteristic weapon design elements, physical examination of an explosive or hazardous device or its components taken outside the context of utilization may not allow the determination of a destructive device to be made. In said absence, an examiner may have to consider the circumstances in which the explosive or hazardous device was utilized to determine its capability to function as a weapon; this consideration is not meant to infer the intent of the individual(s) who constructed the device.

- (This limitation will be used for a device that has functioned.) The explosion and or fire resulting from the functioning of an improvised explosive or incendiary device can cause extensive damage, such as fragmentation, charring or other severe alterations to items of evidence. Due to the destructive nature of these types of energetic events, conclusive determinations as to the recognition and identification of specific device components, as well as the exact design and functioning of the device, may not always be realized in every case.

- (This limitation will be used for a device that has been rendered safe.) Conclusive determinations of the exact design and functioning of a rendered safe or disassembled improvised explosive or incendiary device may not be realized in every case due to the condition of the components.

The examiner must also convey other limitations as appropriate. The examiner may use interpretive wording to aid the reader in understanding such limitations. A noncomprehensive list of such limitations are as follows:

- If results were limited based on a limited number of components, this must be stated.

- If examinations were limited due to the nature of the packaging of the evidence, this must be stated.

- If examinations were limited by the method used to collect the evidence, this must be stated.

The following limitation will be included on the first page of the Case Notes associated with the *Laboratory Report*:

- The physical characteristics, such as, but not limited to, material type, shape, and color of all evidentiary items described in these examination notes are based on visual and/or microscopical observations, unless otherwise noted. Measurements of parameters such as, but not limited to, distances, angles, and voltages are approximate, unless otherwise noted. Diagrams such as, but not limited to, drawings and schematics are not to scale, unless otherwise noted.

3.4 Remarks

The Remarks section will follow the requirements in the FBI *LOM*.

4 References

FBI Laboratory Quality Assurance Manual, Federal Bureau of Investigation, Laboratory Division, latest revision.

FBI Laboratory Operations Manual, Federal Bureau of Investigation, Laboratory Division, latest revision.

Rev. #	Issue Date	History
3	07/17/2018	Updated Section 3 to include a "Limitations" section in Explosives and Hazardous Devices *Laboratory Reports*. Updated Section 3.1 to include mandatory wording regarding the methods used in the discipline of Explosives and Hazardous Devices category of testing. Renamed sections to accommodate the new Section 3.2 "General Limitations" that will be included in all Explosives and Hazardous Devices *Laboratory Reports*. Updated Appendix A for clarity.
4	07/15/2021	Included new heading for Section 3.1. Renumbered and updated sections 3.2 and 3.3 for methods and limitations statements. Updated Appendix A including the addition of Destructive Device Determination.

Approval

Redact - Signatures on File

Explosives and Hazardous Devices Technical Leader Date: 07/15/2021

Explosives Unit Chief: Date: 07/15/2021

QA Approval

Quality Manager: Date: 07/15/2021

Appendix A: *Example wording for the Results of Examinations section for Explosives and Hazardous Devices Laboratory Reports*

Example results contained in an Explosives and Hazardous Devices Laboratory Report:

Destructive Device Determination:

A destructive device is an improvised explosive device (IED) that has the functional characteristics and/or design elements of a weapon. The design of the device incorporated an element that has been utilized by bomb builders to increase an IED's potential to inflict personal injury or property damage. This element included nails taped to the outside of the cardboard tube. Due to this design element, it is the opinion of this examiner that the IED components present meet the two technical elements of a destructive device. Properly assembled and initiated, the resulting explosion of this destructive device could cause property damage, personal injury, or death. A detailed description of the components that comprise this device is provided hereafter.

Results of Examinations:

Present within the submitted Items 1 - 10 are the disassembled remains of an improvised explosive device (IED), also known as a homemade bomb. This device was rendered safe by local, law enforcement, bomb technicians. The general components of an IED consist of an explosive main charge, a container, and an initiating system, all of which are present in the submitted items. This IED consisted of a low-explosive main charge contained within a cardboard tube and an electrical initiating system. Nails were taped to the outside of the cardboard tube. The initiating system consisted of wire, a 9-volt battery, tape, and model rocket engine igniters. Properly assembled and initiated, the resulting explosion from this IED could cause property damage, personal injury, or death. A detailed description of the components that comprise this IED is provided hereafter.

Methods

The methods utilized during the analysis of the evidentiary items included the following:

- visual examinations of observable, physical characteristics;
- microscopical examinations of observable, physical characteristics;
- measurements of physical characteristics.

Interpretations and Limitations

- Conclusive identifications of the source of an item may not be realized in every case due to the absence or alterations of specific manufacturer or other unique markings on items of evidence.

- Item source identifications that refer to a specific distributor or manufacturer have not been confirmed with that distributor or manufacturer unless otherwise stated in this report.

- The physical characteristics, such as, but not limited to, material type, shape, and color of all evidentiary items described in this report are based on visual and/or microscopical observations, unless otherwise noted. Other parameters such as, but not limited to, distances, angles, and voltages associated with individual evidentiary items are based on physical measurements and are approximate, unless otherwise noted. Should a more complete characterization of these items be required, additional examinations can be requested of the appropriate forensic discipline. Diagrams such as, but not limited to, drawings and schematics are not to scale, unless otherwise noted.

- The two elements that must be met to make an affirmative destructive device determination are that the device or device components constitute an explosive or incendiary device and that the device or device components possess the functional characteristics and/or design elements of a weapon. These two elements are purely technical, not legal, and are not meant to infer the intent of the individual(s) who constructed the device.

- Physical examination of an explosive or hazardous device or its components taken outside the context of utilization may not allow the determination of a destructive device to be made due to the absence of characteristic weapon design elements. In said absence an examiner may have to consider the circumstances in which the explosive or hazardous device was utilized to determine its capability to function as a weapon.

- Conclusive determinations of the exact design and functioning of a rendered safe or disassembled improvised explosive device may not be realized in every case due to the condition of the components.